



The United Nations Innovation and Technology Accelerator for Cities (UNITAC-Hamburg) is an initiative managed by UN-Habitat, supported by the UN Office of Information and Communications Technology (OICT), and hosted by HafenCity University Hamburg (HCU).

Embedded in an academic and creative research ecosystem, it leverages digital innovation and data to accelerate progress towards the Sustainable Development Goals (SDGs), particularly Goal 11 – Sustainable Cities and Communities.

unitac.un.org
unitac@un.org

in UNITAC Hamburg
 UNITACHamburg

Accelerating digital innovation for inclusive urban futures

Cities and human settlements are on the frontlines of today's most pressing global challenges, from inadequate housing and infrastructure gaps to climate- and conflict-driven crises. As cities continue to grow rapidly, these pressures tent to impact most severely the **1.1 billion people living in informal settlements and slums**, as well as more than **300 million people** experiencing **homelessness**, underscoring the urgent need for coordinated and effective action.

At the same time, inclusive urban development, supported by data-driven and digital technologies, offers significant opportunities to address these challenges at scale. By leveraging digital platforms, geospatial technologies, artificial intelligence, and real-time analytics, cities can shift from reactive responses to proactive, evidence-based decision-making. This enables early risk identification, more targeted interventions, and continuous monitoring of urban

dynamics and supports cities in becoming more inclusive, resilient, and sustainable.

UNITAC-Hamburg plays a leading role in developing **digital and data solutions for cities worldwide**.

Through technology acceleration, it aims to enhance quality of life in cities, with a particular focus on marginalized communities.

Digital transformation offers opportunities but also deepens global divides. UNITAC helps governments align urban development with inclusive digital strategies. Applying a multi-level governance approach, UNITAC builds skills, ethical capacities, and locally driven solutions to support equitable, sustainable urban futures.



United Nations
 Office of Information and
 Communications Technology



**HafenCity
 Universität
 Hamburg**

Thematic pillars driving sustainable urban transformation

UNITAC-Hamburg develops and applies digital tools to support public participation, spatial analysis, mapping, modelling, simulation, and data visualization. This work is structured around three thematic areas:



1 Mapping, spatial analysis, data analytics, and visualization

Achieving adequate housing requires robust and efficient systems for mapping, targeting, and monitoring urban conditions, particularly in informal areas where data gaps often persist. UNITAC-Hamburg develops tools, such as the **Building and Establishment Automated Mapper (BEAM)** to address these gaps. BEAM applies machine learning to identify rooftops in informal settlements using aerial and satellite imagery. The tool has been implemented in South Africa, Namibia, and eight capital cities in Central America, supporting improved understanding of spatial inequalities and helping to ensure that interventions reach the most marginalized populations.



2 Data-enabled urban resilience and recovery

Cities facing conflict, disasters, and climate-related shocks often lack the spatial data and analytical tools needed to plan effective response and recovery. The **Urban Recovery Planning System (URPS)**, developed in the Ukraine project, is a modular spatial decision-support platform enabling damage mapping, reachability analysis, facility simulation, and participatory recovery planning. Building on this experience, UNITAC-Hamburg will adapt and scale recovery-oriented tools to other post-crisis contexts, including AI-powered damage detection and tools to assess energy accessibility and reliability in fragile settings.



3 Open, transparent, and participatory data governance

As cities and towns aspire to become Smart Cities, ensuring that digital transformation reflects the values and priorities of residents is essential to ensure a people-centred approach. UNITAC develops participatory platforms such as the **AOVI** tool, that empower citizens to engage in urban dialogues, decision-making and the ethical use of technology.

Across all thematic areas, UNITAC-Hamburg emphasizes **applied research, testing, and scaling of frontier technologies** through UN-Habitat's global network and partnerships with institutions.



Become a UNITAC partner



Collaborate on challenge-driven projects co-created with local partners



Build skills and strengthen local capacities for ethical, inclusive digital technology use



Advance your digital transformation strategies, policies and processes



Enhance urban planning, services or governance through digital innovation and data